UNITED STATES PATENT AND TRADEMARK OFFICE

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10/709,992	06/11/2004	Sheng-Yuan Cheng	ADMP0005USA	3991

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EXAMINER
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ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
04/15/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
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PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2008*.

2a)☒ This action is **FINAL**.　　　　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Disposition of the claims

I.   The current office-action is in response to the amendments filed on 01/22/2008.

Accordingly, Claims 1-7 are imminent for further assessment as follows:

Claim Rejections - 35 USC § 103

II. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ginzburg et

al. (US 20050053037) in view of **Trainin** [US 20040120292].

Claim 1

As for the invention "Receiving the pieces of frame data of the MSDU" Ginzburg teaches (Para

0015, lines 6) receiving data by station 20 (Fig. 1) having controller (34) (Para 0018, line 2).

As per the invention; receiving each piece of frame data, converting the received piece of frame

data into a MAC Protocol data units (MPDU) and outputting MPDU" Ginzburg teaches (1)

(Para 0021 line 3-4) the controller 34 causes or control the fragmentation of the frames *to be*

transmitted), (2) the architecture (as per schematic diagram of Fig. 2) may be included in a

controller 34, (3) (Para 0022, line 6) a packet 202 or other data unit may be transmitted is

passed through TX scheduler 204, TX scheduler 204 may in embodiments be software or

combination hardware and software controller that may divide a frame or other data unit into

fragments 206 (MPDU)

Ginzburg teaches all the particulars of the claim except wherein for at least one of the plurality

of pieces of frame data, converting begins prior to having received all of the plurality of pieces

of frame data of the MSDU. However, Trainin teaches in an analogous art, that wherein for at

least one of the plurality of pieces of frame data, converting begins prior to having received all

of the plurality of pieces of frame data of the MSDU. (e.g. one slot at a time; ¶ 0036 for further

explanations in ¶ 0039-0040) Therefore, it would have been obvious to one of ordinary skill in

the art at the time of invention to modify Ginzburg including wherein for at least one of the

plurality of pieces of frame data, converting begins prior to having received all of the plurality

of pieces of frame data of the MSDU in order to provide a method for interfacing between a

MAC sublayer and a physical layer.

Claim 2

As for the invention "the network system is a wireless network" Ginzburg teachings (P 1,

paragraph 0001, line 12) refer to "a need to improve quality of transmissions on wireless

networks in the face of noise, packet collisions and other factors."

Claim 3

As for the invention "the received piece of frame data is converted into the MPDU according to

the IEEE 802.11 standard" Ginzburg teaches (Para 0012, lines 1-4) that the Request toSend

(RTS) uses IEEE 802.11 This leads to conclude that WLAN uses 802.11 standard for every

operation for wireless data communication. So we can conclude that MSDU to MPDU

conversion also uses 802.11

Claim 4

As for the invention "an I/O interface for receiving a MAC service data unit (MSDU) which has

plurality of pieces of frame data;" Ginzburg teaches architecture of Fig. 2 is incorporated in

Controller 34(Paragraphs 0022, lines 3-5). MSDU is received by controller via STATION 20

(Fig. 1). The MSDU is fragmented and converted in MPDU as explained in (paragraphs 0011,

lines 5-10).

As for the invention "a buffer for storing the pieces of frame data received by the I/O interface"

Ginzburg teaches that Station 20 (Fig.1) includes storage used for buffering MSDU.

As for the invention "a control circuit for controlling operations of the network device and for

converting the pieces of frame data stored in the buffer in to MAC protocol data units MPDUs)"

Ginzburg teaches (Paragraphs 0017, lines 1-2) that station 20 includes wireless communication

device. Station 20 also includes controller 34 (Fig. 1), which buffers frame data from AP 10

(Fig.l) and fragments and converts MSDU into MPDU as explained in previous claim 1.

Ginzburg teaches all the particulars of the claim except wherein for at least one of the plurality

of pieces of frame data, converting begins prior to having received all of the plurality of pieces

of frame data of the MSDU. However, Trainin teaches in an analogous art, that wherein for at

least one of the plurality of pieces of frame data, converting begins prior to having received all of the plurality of pieces of frame data of the MSDU. (e.g. one slot at a time; ¶ 0036 for further explanations in ¶ 0039-0040)

Claim 5

As for the invention "The Network device comprising an antenna for wirelessly transmitting the MPDUs" Ginzburg teaches (Fig. 1) that Station 20 includes antenna 39. This antenna is used to transmit MPDUs.

Claim 6

As for the invention "converts MSDU into MPDUs according to the IEEE 802.11" Para [0012] refers to IEEE Std. 802.11 "request to send" (RTS). This leads to conclude that WLAN uses 802.11 standard for every operation for wireless data communication. So we can conclude that MSDU to MPDU conversion also uses 802.11.

Claim 7 is the apparatus, claims, corresponding to method claim 1 respectively, and rejected under the same rational set forth in connection with the rejection of claim 1 respectively, above.

Response to Remarks

III.   Applicant's arguments filed on 01/22/2008 have been fully considered but they are not persuasive.

Relating to Claim 1:

In view of the fact, that **TRAININ** teaches, "There are a number of cases when it is desirable to transmit a response frame as soon as possible after the SIFS (or other IFS) expires. These cases include, for example: 1) transmitting an ACK after a frame is received; 2) transmitting a fragment after an ACK is received; 3) transmitting a Clear to Send (CTS) after a Request to Send (RTS) is received; 4) transmitting a frame after a CTS is received; and 5) transmitting an ACK after a PC-Poll is received." (Trainin, ¶ 0047, 0039-0040). Thus, it is evidently, the explanations above is directed to methods for the PLCP sublayer prepares MAC protocol data units (MPDUs) for transmission and delivers incoming frames from the wireless medium to the MAC Layer in case of ACK with fragmentation as also disclosed in (Trainin, ¶ 0067, 0033), that positively, edify by **TRAININ**. Hence, it is believed that **TRAININ** still teaches the claimed limitations.

The above arguments also recites for the other independent claims, consequently the response is the same explanation as set forth above with regard to claim 1.

Because the remaining claims depend directly/indirectly, from one of the independent claims discussed above, as a result the response is the same justification as set forth above.

With the intention of that explanation, it is believed and as enlighten above, the refutation are sustained.

Conclusion

IV.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS

from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

of the mailing date of this final action and the advisory action is not mailed until after the end

of the THREE-MONTH shortened statutory period, then the shortened statutory period will

expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Sharad Rampuria whose telephone number is (571) 272-7870. The

examiner can normally be reached on M-F. (8:30-5 EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000 or

EBC@uspto.gov.

/Sharad Rampuria/
Primary Examiner
Art Unit 2617